

DIRECT TESTIMONY
OF
HARVEY G. NELSON

TELECOMMUNICATIONS DIVISION
ILLINOIS COMMERCE COMMISSION

Lockheed-Martin IMS
DOCKET NO. 98-0847

April 1, 1999

1 Q. Please state your name and business address.

2

3 A. My name is Harvey G. Nelson. My business address is 527 East Capitol Avenue, P.
4 O. Box 19280, Springfield, Illinois 62794-9280.

5

6 Q. By whom are you employed and in what capacity?

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8 A. I am employed by the Illinois Commerce Commission as an Economic Analyst in
9 the Telecommunications Division.

10

11 Q. Please state your education background and work experience.

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13 A. I graduated from Carthage College in 1969 with a Bachelor of Arts degree in
14 Business Administration. In addition to my formal education, I have attended
15 various seminars and workshops pertaining to public utilities operations. Some of
16 these seminars and workshops include: Capital Recovery Seminar, sponsored by
17 United States Telephone Association; Telephone Cost of Service Symposium,
18 sponsored by The National Regulatory Research Institute; NARUC Regulatory
19 Studies Program and the 1991, 1997 and 1998 National Communications Forums,
20 sponsored by the National Engineering Consortium.

21

22 I have been employed by the Illinois Commerce Commission since 1969. During my
23 29 years with the Commission, I have held various positions such as Engineering

24 Technician, Utility Engineer and Economic Analyst in the Railroad Engineering
25 Department, Water and Sewer Utilities Section of the Public Utilities Division and in
26 the Telecommunications Division. In these positions, I have reviewed utility
27 operations for compliance with rules and regulations promulgated by the Illinois
28 Commerce Commission, participated in rate cases, formal customer complaint cases
29 and depreciation represcriptions.
30

31 Q. What is the purpose of your testimony in this proceeding?
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33 A. I will address telephone number utilization in the 312,773, 630, 847 and 708
34 NPAs and make recommendations regarding the appropriate NPA code relief.
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36 Q. Have you reviewed the Report Of The Number Administrator dated February
37 1, 1999, and the minutes of the May 7, 1998 Chicago Area Telecommunication
38 Industrial meeting ?
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40 A. Yes.
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44 Q. Do the documents contain Chicago Area NPA forecast data ?

45 A. Yes. Both documents contain Chicago Area NPA forecast data. Staff Exhibit 1.1
46 presents a summary of the data.

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49 Q. What is the source of the data ?

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51 A. The data is derived from the minutes taken at the Chicago Area

52 Telecommunication Industrial meeting held on May 7, 1998 and from the

53 February 1, 1999, Number Administrator's Report. The Number Administrator

54 has indicated she will be filing a new report on April 7, 1999.

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56 Q. Do you recommend the April 7th report be filed in this Docket ?

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58 A. Yes. I recommend the April 7th report be filed in this Docket, so that it's findings

59 and conclusions can be considered by the Commission when evaluating the

60 testimony and exhibits presented in this Docket.

61

62 Q. What is the purpose of Staff Exhibit 1.1 ?

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64 A. The purpose of Staff Exhibit 1.1 is to show the forecasted NPA exhaust dates

65 as presented at the Chicago Area Telecommunication Industrial meeting and the

66 exhaust dates contained in the February 1, 1999 Number Administrator's Report.

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68 Q. Have you reviewed the data and, if so, what are your conclusions ?

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70 A. I have reviewed the data and found it shows the forecasted exhaust dates for
71 312, 773 and 708 have been extended approximately one to two quarters since
72 May 7, 1998. The exhaust date for the 847 NPA has been extended for
73 approximately five quarters. The data also shows there is no change in the
74 forecasted exhaust date projected for the 630 NPA. I would like to note that the
75 new forecast, due to be released on April 7, 1999, could impact the overall timing
76 needs for NPA relief.

77
78 Q. Why have the forecasted exhaust dates for 312, 773, 708 and 847 NPAs been
79 extended ?

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81 A. The forecasted exhaust dates may have been extended as a result of the positive
82 effect of the conservation measures directed by the Commission in Dockets 97-
83 0192 and 97-0211 Consolidated and in Docket 98-0497. In addition, the exhaust
84 dates may have been further impacted by return of number blocks by various
85 telecommunication carriers.

86
87
88 Q. Do you have data showing the number of telephone number blocks returned by
89 the carriers ?

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91 A. Yes. The data is shown on Staff Exhibit 1.2.

93 Q. Do you have any comments relating to Staff Exhibit 1.2 ?

94

95 A. The Exhibit shows the number of telephone blocks (606) returned to the Number
96 Pooling Administrator for the period between June 1, 1998 and January 31,
97 1999. It also shows the forecasted number of blocks to be returned in 1999 and
98 the actual number returned as of March 25, 1999. The actual number of blocks
99 returned has exceeded the forecast by 190 blocks. The Exhibit also shows the
100 Number Pooling Administrator's initial eighteen month forecast and its revised
101 eighteen month forecast. The revised forecast projects twenty one additional
102 blocks will be returned.

103

104 Q. Does the Number Administrator's February 1, 1999 report indicate the quantity
105 of number blocks that have been assigned and utilized by telecommunication
106 carriers ?

107

108 A. Yes. The report indicates that 139 of the 606 number blocks returned have been
109 assigned.

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111 Q. How many number blocks have been activated ?

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113 A. The report indicates 17 blocks have been activated.

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115 Q. If 139 blocks have been assigned and only 17 have been activated, does that

mean that there are approximately 122 blocks assigned to carriers that have not been activated ?

A. Not necessarily. Some of the 122 blocks that are assigned may also be in use and not necessarily be shown as activated because a carrier has been assigned blocks of numbers based on its forecasted need for them. Finding #5 of the Commission's Order in Docket 98-0497 allows a carrier to keep blocks of numbers if it forecasts a need for them within a six month period or the number blocks are more than 10% contaminated. Another condition that effects the assignment or activation of number blocks is when a carrier donates a number block to the Number Portability Administration Center (NPAC) and the NAPC assigns the donated block back to the carrier. When this occurs, the number block is considered activated since it has not been removed from the carrier's routing tables.

Q. What function does the Number Portability Administration Center (NPAC) perform ?

A. The NPAC maintains the Midwest region's (Illinois, Michigan, Ohio, Indiana and Wisconsin) number portability database and is operated by Lockheed Martin. The NPAC assigns and activates blocks of telephone numbers. To activate a block of numbers the following process accrues. A carrier requests a block of numbers from the NPAC. The request is acknowledged and a number

block is assigned to the carrier. The information contained in the number block is downloaded to the carrier's routing table and the new routing information is sent to other carriers in order for them to change their routing tables to reflect the new number block.

Q. Does the data contained in Staff Exhibit 1.1 indicate exhaust dates for 773, 847 and 630 NPAs ?

A. Yes. The dates are: 4Q 99 for 773 and 847 NPAs and 3Q 99 for 630 NPA.

Q. What affect do the forecasted exhaust dates have on adopting NPA code relief ?

A. The forecasted exhaust dates indicate a need to obtain NPA code relief.

Q. What are some additional factors that may effect the timing of NPA code relief ?

A. Additional factors affecting the timing of NPA code relief include: Y2K issues, compliance with the Commission's directive relating to the three month period during which the carriers are to inform their customers of NPA changes and administrative/technical functions associated with assigning a new NPA or establishing number pooling.

162 Q. Please describe the Y2K issue?

163

164 A. The NANC LNPA working group has recommended a "Y2K stabilization period"
165 to begin on November 1, 1999, and to end on March 1, 2000. During this period
166 no new NPAs will be established. As a result, any action to provide NPA relief
167 must be completed by November 1, 1999.

168

169 Q. What type of NPA relief is available ?

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171 A. In the 847 NPA, the Commission has established a relief plan that implements
172 an overlay. The plan provides for two events to occur before the overlay
173 is implemented. They are: 1) the local number administrator triggers
174 the establishment of the 224 NPA overlay when it assigns the first NXX
175 assigned to the 224 NPA and 2) the implementation of the overlay will occur
176 after a three month period. This period is to be used for informing
177 telecommunication customers of the new code. In the 630, 773, 312 and 708
178 NPAs, relief can be obtained by establishing a new NPA by either a geographic
179 split of the affected NPA or by adopting an overlay.

180

181

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183

184 Q. Are there other methods available that can reduce or delay the need for NPA

185 relief ?

186 A. The other methods are: conservation measures, number pooling and
187 rationing.

188

189 Q. What type of code relief plan does Staff recommend ?

190 A. Staff recommends establishing an overlay for 630, 773, 312 and 708 NPAs
191 to be consistent with the Commission's findings in Docket 98-0497.

192

193 Q. What actions do you recommend to delay the implementation of the
194 overlay relief plan ?

195

196 A. Because of the 3Q 99 forecasted exhaust date projected for the 630 NPA
197 and the 4Q 99 projected exhaust date for 773 NPA, I recommend an interim
198 order be adopted expanding the current number pooling trial to the 630 and
199 773 NPAs, along with the continuance of the number conservation measures
200 as directed by the Commission. The implementation of the trial should be
201 structured so it does not impede the FCC's NPA relief guidelines and its efforts
202 to initiate national number pooling standards.

203

204 Q. Why do you recommend extending the number pooling trial to the other NPAs
205 with the continuance of number conservation measures ?

206

207 A. My recommendation is based on the following reasons :

1. The adoption of number pooling and conservation measures is less disruptive to existing customers, since they maintain their existing NPAs, seven digit telephone numbers, and calling patterns.
2. New customers will be assigned NPAs that are familiar to them and to other telecommunication consumers.
3. Conservation measures are known and are currently being implemented.
4. Implementing number pooling on a trial basis would be relatively easy since most of administrative and technical issues have been identified and resolved in the 847 pooling trial.
5. Extending the trial to the 630, 312, 708 and 773 NPAs would provide operational experience relating to the provision of number pooling to a larger user base. This experience would be helpful in expanding number pooling to other areas in the state and the nation.

Q. Are there legal issues relating to the implementation of a number pooling trial outside of the 847 NPA ?

A. Yes. Such issues have been addressed in Docket 98-0497 and it is my understanding they will also be addressed by the parties in this Docket.

Q. Are there technical issues relating to number pooling that may have an effect on customer service ?

231 A. There is a technical issue relating to database capacity at the service control
232 points (SCP).
233

234 Q. Please describe this capacity problem and your understanding of the methods
235 available to increase the capacity at the SCP ?

236 A. Before the release of a new software package, identified as Release 1.4, the
237 SCPs were limited to the amount of information on ported and pooled numbers
238 they could accommodate. Release 1.4 increases the storage capacity of the
239 SCP by allowing the Number Portability Administration Center to send to the
240 carriers' local service management systems information on whether a number is
241 ported or pooled and allows the National Portability Administration Center to
242 send
243 telecommunication carriers data on ported and pooled numbers in ranges
244 instead of individually. An important functionality of Release 1.4 is that it allows
245 telecommunication carriers to operate in a mechanized mode instead of a
246 manual mode. It allows carriers' SCPs databases, used to store routing
247 information on ported and pooled numbers, to hold the numbers in ranges
248 instead of individually. Storing numbers in ranges increase the SCPs capacity
249 by reducing the capacity needed to store numbers.

250

251 Q. Has Release 1.4 been implemented into the 847 pooling trial ?

252

253 A. Yes, it was placed in service on February 1, 1999. To the best of my knowledge,

254 all carriers have successfully received downloads of 847 data. They have also
255 successfully completed testing of the pooling functionality and have placed all
256 pooled data into the new format.

257

258 Q. Does the data contained in Staff Exhibit 1.1 and the factors that affect the timing
259 of the implementation of NPA relief, require the adoption of an expedited
260 schedule for NPA code relief ?

261 A. Yes.

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263 Q. Does this conclude your testimony ?

264 A. Yes.